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GLOBAL BIOTECHNOLOGY FORUM

Report by the Director-General

In compliance with Board decisions IDB.26/Dec.8 and IDB.27/Dec.8, reports on the Global Biotechnology Forum held at Concepción, Chile, from 2 to 5 March 2004.

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Abbreviations

CBD	Convention on Biological Diversity
FAO	Food and Agriculture Organization of the United Nations
GBF	Global Biotechnology Forum
ICGEB	International Centre for Genetics and Biotechnology
ILO	International Labour Organization
OECD	Organization for Economic Cooperation and Development
TRIPS	trade-related aspects of intellectual property rights
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization
WTO	World Trade Organization

Introduction

1. The present document provides:

- A background to the Global Biotechnology Forum (GBF) held at Concepción, Chile, from 2 to 5 March 2004 and organized jointly by UNIDO and the Government of Chile;
- A résumé of the process and regional consultation meetings leading up to GBF and of the Forum itself;
- Key points and possible initiatives arising out of the GBF for further consideration.

2. The text should be considered in conjunction with other information provided to Member States, including document IDB.26/10 and numerous information notes and briefings for permanent missions. Over the coming weeks various reports will be prepared, including a detailed and comprehensive report and proceedings of the Forum. It is noted also that the General Conference, in resolution GC.10/Res.7, looked forward to discussing those sectors of the Forum that fall under UNIDO's mandate at the twenty-eighth session of the Board.

I. MANDATE AND OBJECTIVES

3. The overall objective of the GBF was to examine the potential offered by biotechnology in its various facets for, in particular, the creation of wealth and improvement of the quality of life of people in the developing countries and countries with economies in transition. Convening of the GBF was based upon a fundamental commitment by the United Nations and its agencies towards the promotion of biotechnology for enhancement of living standards and the quality of life of the developing nations, alongside the industrialized world. That commitment began with the Earth Summit in Rio de Janeiro in 1992. In particular, Chapter 16 of Agenda 21 of the work programme adopted by the 1992 United Nations Conference on Environment and Development outlined the potential of biotechnology to contribute to sustainable development by increasing the availability of food, and renewable materials, improving human health and enhancing protection of the environment. In December 2002, resolution 57/237 of the United Nations General Assembly referred to decision IDB.26/Dec.8 adopted by the Industrial Development Board of UNIDO on the Global Biotechnology Forum and to various aspects related to the Forum.

4. Underlying this broad objective were a number of more specific subsidiary objectives:

- To examine biotechnological opportunities and challenges in the developing world;
- To examine possible restrictions and issues in relation to such opportunities and challenges, and suggest possible mechanisms to overcome any such situations;
- To explore means of capacity-building, particularly in relation to scientific and business skills;
- To explore potential for contributions to health care and pharmaceuticals from biotechnology in the developing countries, relating both to internal use and potential export markets;
- To explore mechanisms of technology transfer.

5. Obviously, this list is not exclusive; there is also a degree of overlap between the subsidiary objectives. However, they serve as examples of the kind of specific objectives and issues to be considered and brought forward for discussion following the Forum.

II. ROLE OF UNIDO

6. As the United Nations agency with the prime responsibility for promoting sustainable industrial development, UNIDO played a catalytic role in the promotion of biotechnology to developing countries through the establishment of the International Centre for Genetic Engineering and Biotechnology (ICGEB) at Trieste, Italy, and New Delhi, India, in 1983. Through UNIDO's leadership and with the strong support of the Government of Chile and ICGEB, the GBF was organized recognizing that subsequent follow-up activities would require inputs and actions from a wide

range of international development agencies, other United Nations specialized agencies, the private sector and the scientific community. UNIDO's specific contribution will be restricted to its mandate, and in particular to the field of industrial biotechnology and its potential applications for raising productivity, effective environmental management and enhancing sustainable livelihoods for poverty alleviation. It is noteworthy that Chapter 16 of Agenda 21, adopted in 1992, conferred an explicit mandate on UNIDO in regard to the environmentally sound management of biotechnology.

III. THE GBF PROCESS

7. The overall rationale behind the GBF was to provide a forum for discussion by experts brought together from a wide variety of backgrounds, including from scientific research, industrial processing, business, the political world and civil society, and focused on mechanisms for improving the diffusion of biotechnology through the developing world for the common good.

8. Operationally the Forum was structured in two parts. The first consisted of four regional consultation meetings covering biotechnology in Africa (March 2003), Latin America and the Caribbean (July 2003), Europe (December 2003), and Asia and the Pacific (December 2003). The regional meetings provided a backdrop of information as to the current status and level of development of biotechnology in the industrialized countries and developing world, as well as potential and insights for the future. These meetings provided the platform for the second part, the Forum itself, held at Concepción, Chile, from 2 to 5 March 2004, with a comprehensive programme of presentations by leading scientists, industrialists and policy makers in workshops and discussion panels. This programme provided the framework for detailed discussions aimed at identifying barriers to the diffusion of biotechnology to the developing countries and promulgating ideas for practicable initiatives going forward with the core objective of enhancing biotechnology development and activities in the developing countries and the countries with economies in transition.

9. As of 20 March 2004, the UNIDO expenditures, including studies, convening regional meetings and GBF itself, totaled $1,087,120. It is anticipated that a number of publications will result from the GBF, which together with putting in place the follow-up mechanisms will require limited additional expenditures.

Regional consultation meetings

10. Four regional consultations were held: the first for Africa, at Nairobi (March 2003), the second covering Latin America and the Caribbean, at Brasilia (July 2003) the third for Europe, in Vienna (December 2003) and the final one covering Asia and the Pacific, at Chengdu, China (December 2003). Details of the regional meetings, including a summary of key questions raised, are provided in a separate conference room paper. The overall objectives of the regional meetings were:

- To review the level and state of biotechnology, providing at the same time an overview of biotechnology;
- To assess the potential and opportunities offered by biotechnology;
- To determine the constraints to development of biotechnology within each region and globally;
- To address the aspirations and needs of the regions that may be addressed through biotechnological activity.

Global Biotechnology Forum

11. The Global Biotechnology Forum itself (at Concepción, Chile, 2-5 March 2004) was attended by some 1,500 people from over 80 countries greatly exceeding the numbers initially anticipated, with ministerial-level representation from a number of countries. Unfortunately, representation from the African and Asia and Pacific regions, where biotechnology, as seen in the regional consultations, may have a particularly important role to play in their future development, was quite limited. Such a situation may perhaps be redressed by future focused region-specific meetings. Many United Nations and other agencies were represented by senior officials, including UNESCO, UNCTAD, FAO, WHO, WTO, OECD, together with representatives from a number of NGOs.

12. The Forum was organized into three sections:

- Ministerial discussion meetings;
- Plenary sessions composed of keynote lectures and including the themes bioindustry in developing countries, biotechnology and health care, agricultural biotechnology, biosafety, technology transfer, trade, financing bioindustry, regulation and biotechnology;
- Working group sessions that followed a pattern of themes similar to those for the plenary sessions.

13. Feedback from plenary participants indicated that the themes chosen were appropriate, with the reservation that insufficient attention was paid to the area of bio-processing. While the quality of presentation in the plenary sessions was generally judged to be high, participants in general felt that insufficient time was allowed for discussion. In contrast the working group sessions were most positively received, where the level of professionalism of the chairpersons in running the

discussion was commented on by a number of participants. Participants in general felt these sessions to be most useful and also the most productive part of the Forum in working terms.

14. At the end of each day ideas and information were collated from the various sessions by the UNIDO Secretariat as a rolling programme and fed into the following day sessions to maintain as full a discussion over the meeting as possible. While no major new issues were revealed as a result of this process, new insights were gained into several. Initiatives with a slightly different emphasis were also developed compared with those seen from the regional consultations. This rolling process enabled the UNIDO Secretariat with support from ICGEB colleagues and others to produce a list of highlights of proceedings and proposals for action (annex I), which was presented in the closing ceremony after the Final Statement (annex II).

IV. KEY ISSUES

15. Over the process of the GBF, from the regional meetings to the Forum itself in Chile, a number of key issues emerged as barriers to progress in biotechnology in developing countries. These are summarized below.

- Lack of sufficient numbers of skilled scientists, technologists, process development people and risk assessment experts;
- Need to create a flexible market between the public and private sectors to maximize the benefits of an enhanced skills base;
- Lack of infrastructure and facilities;
- Lack of entrepreneurial skills in biotechnology management and commercialization (this is not confined to the developing countries but appears to be particularly acute in these);
- Lack of public investment in the development of biotechnological capabilities through, for instance, university programmes or research institute development;
- Lack of private sector investment in bio-technological development and the type of incentives necessary to encourage such investment;
- Lack of access to proprietary technologies and intellectual property, and their concentration in the private sector of industrialized nations. (This issue is not confined to the developing countries, and indeed some would argue is not a major issue since few industrialized nation companies apply for patent cover in the developing world, leaving the intellectual property, be it in technology or products, open to a generic approach. The bigger issue here, it is claimed, concerns that detailed above, i.e. lack of skills and know how to take on technologies and products developed within the industrial nations);
- Intellectual property rights and transfer of technologies;
- Lack of public acceptance of some products of modern biotechnology;
- Differing and often complex regulatory protocols;
- Linked to the above—food safety and health concerns,
- Public safety issues;
- Regulation of genetically modified crops or products.

V. FOLLOW-UP PROCESS

16. The list of issues raised during the GBF (see chapter IV above), while not necessarily being exhaustive is nonetheless comprehensive, raising also major issues as to which should be addressed, how, and in what order. As a first step in this process the GBF Final Statement recognized a framework of four major areas for new initiatives and proposals to be further considered and followed up by United Nations organizations (based on their respective mandates and approval by their governing bodies), other international development partners, the scientific community and the private sector:

(a) Formation of a multi-stakeholder forum, involving United Nations specialized agencies and other international bodies together with representatives of government, industry and the scientific community to serve as an ongoing platform for informed dialogue on biotechnology and the way in which its benefits may be used for the enhancement of developing countries;

(b) Creation of an information network and database as to what biotechnology activities are currently in progress in the countries with economies in transition and developing countries, together with market information on a global basis to assess technology and market potentials for new initiatives, including to identify and facilitate partnerships;

(c) Enhancement of efforts for the mobilization of resources for capacity-building;

(d) Examination of the impact of and ways to facilitate access to intellectual property to promote the exploitation and dissemination of biotechnology in developing countries.

17. Following the regional consultations and GBF in Chile, the key task now is to follow up and carefully analyse as quickly as possible the various issues and

proposed actions arising, and falling within the four framework areas of the Final Statement, as a prelude to developing proposals for possible new initiatives. In this connection, UNIDO recognizes the bounds of its own mandate within biotechnology, the limited resources available within the Organization and the need to involve other agencies, organizations and partners such as ICGEB at the earliest point.

18. The GBF provides the potential for a number of publications. In addition to the present report and a subsequent detailed report, the following are under preparation:

- Compilation of proceedings with a summary of the meeting;
- Monographs and a summary of the regional meetings;
- Monographs on specific topics as teaching manuals such as a "Small company management and finance guide".

VI. ACTION REQUIRED OF THE BOARD

19. The Board may wish to take note of the information provided in the present document and to identify the follow-up work to be initiated by UNIDO. As noted in paragraph 2 above, the General Conference, in resolution GC.10/Res.7, looked forward to discussing those sectors of the Forum that fall under UNIDO's mandate at the twenty-eighth session of the Board.

Annex I

HIGHLIGHTS OF PROCEEDINGS AND PROPOSALS FOR ACTION

The Global Biotechnology Forum was programmed to cover as many opportunities, facets and issues of biotechnology as possible in a structured and highly interactive format, through formal presentations as well as through the mechanisms of workshops and open discussions. The excellent conference facilities greatly facilitated that process, and enabled fruitful discussions and networking to take place outside of the formal sessions.

The organizers wish to thank the chairman, coordinators and rapporteurs of the various parallel sessions for their great assistance in bringing together, through the summary reports of each days proceedings, the results of the deliberations of the participants. These highlights of proceedings and proposals for action provide an overview of those deliberations and follow in general the topics of the Forum.

The following highlights some of the key ideas resulting from the discussions. A more detailed analysis will be produced and circulated by UNIDO in the summary of proceedings in due course.

1. Bioindustries

The discussions confirmed the potentially wide-ranging impacts of biotechnology across the spectrum of global industrial activity, including agro-industries, bio-processing, bioremediation, biodiversity conservation and utilization, and health care.

2. Technology transfer

The transfer of biotechnology applications, essential for generating prosperity in developing countries, is significantly accelerated if such countries are in a position to develop their own technologies. At the present time most advanced biotechnologies are developed in the industrialized world and efforts to make their benefits available to the developing world should be encouraged.

Proposed action:
Strengthen and expand existing institutional mechanisms and explore new ones to facilitate technology transfer, including capacity-building, to both public and private sectors in developing countries.

3. Financing and public-private partnerships

It was recognized that entrepreneurship and seed capital are essential in developing vibrant small and medium enterprises. These can best grow with easy availability of financing, the promotion of research and development efforts, and market access, and through public-private partnerships.

Proposed action:
Appropriate entities should develop entrepreneurship programmes that would facilitate sound business plan development, networking, and the management of science and biotechnologies. Further, Governments need to strengthen financing mechanisms, including promotional funding schemes, designated bank funds, and venture financing. These mechanisms should be critically monitored and corrections incorporated to ensure steady growth of bioindustries.

4. Intellectual property

Discussions highlighted the importance of balancing the need for access to biotechnologies and for technology developers to have intellectual property protection. International agreements such as TRIPS provide a foundation for this process.

Proposed action:
Examine the impact of, and ways to facilitate, access to intellectual property to promote the exploitation and dissemination of biotechnology in developing countries.

5. Biosafety

The requirements of nations for biosafety frameworks in the context of new technologies and international agreements such as the Cartagena Protocol on Biosafety have created the need for regulatory harmonization. Harmonization of biosafety regulations and processes is important, particularly for developing countries, because of limitations in technical and regulatory capacity, and the complexity of the subjects.

Proposed action:
Harmonization is achievable for administrative elements at national and international levels. Technical data requirements also can be harmonized, and regional and broader international harmonization of data requirements should be pursued. In addition, aspects of risk assessment can be harmonized, bearing in mind environmental differences, and may be valuable on a subregional level to perform joint assessments for certain products. Decision-making will remain a sovereign national activity.

6. Biodiversity

A recurrent theme was the richness of biodiversity present in developing countries and the potential that this provides for sustainable utilization. The Convention on Biological Diversity provides a mechanism that encourages sustainable utilization.

Proposed action:
Practical steps should be taken to develop readily accessible mechanisms for documenting biodiversity at national and regional levels.

7. Capacity-building

There was general agreement on the need to mobilize resources for building technical and infrastructural capacity, including in scientific, regulatory, intellectual property rights, legislative and entrepreneurial areas.

8. Networks

While there is a great deal of information available underpinning activities in biotechnology around the globe relating to intellectual property, scientific and industrial programmes, and commercial activities, this is not readily available or accessible in structured formats to either developed or developing countries, and to separate jurisdictions within them.

Proposed action:
Creation of an information network and database as to what biotechnology activities are currently in progress in the countries with economies in transition and developing countries, together with market information on a global basis to assess technology and market potentials for new initiatives, including to identify and facilitate partnerships.

9. Inter-agency cooperation

There was a general consensus among the organizations and participants in the Forum on the need to establish an adequate mechanism that will ensure cooperation in line with resolution A/58/200 of the General Assembly.

Proposed action:
Encourage the establishment of an inter-agency cooperation network on biotechnology. Encourage the elaboration of joint studies and reports among the agencies. Assist UNCTAD in the preparation of the report to the United Nations General Assembly, in line with resolution 58/200.

Annex II

FINAL STATEMENT

The Global Biotechnology Forum (GBF) was convened from 2-5 March 2004 under the auspices of the United Nations Industrial Development Organization (UNIDO) and Government of Chile, with assistance from the International Centre for Genetic Engineering and Biotechnology (ICGEB).

The conference was attended by some 1,500 participants from about 80 countries, including experts from Governments, intergovernmental organizations, non-governmental organizations, scientific institutions, industry and the media.

The overall objective of the GBF was to examine the potential offered by biotechnology in all its facets for the creation of wealth and the improvement of the quality of life of people in the developing countries and countries with economies in transition.

The participants, building on the work that had previously taken place in the regional consultative meetings in Africa, Asia and the Pacific countries, Europe, and Latin America and the Caribbean examined a broad range of issues related to this objective through structured dialogue on:

Biotechnology meeting the needs of the poor

Biotechnology, biodiversity, energy and the environment

Trade, regulation, bio-safety and social acceptance of biotechnology

Biotechnology and bio-industry

Biotechnology and the developing world

The participants emphasized the importance of nations increasing their efforts to achieve the Millennium Development Goals (as contained in the United Nations Millennium Declaration of 2000), and they also took note of the provisions of the Monterrey Consensus. They recognized that the World Food Summit (five years later), of June 2002 urged research institutions and United Nations organizations to advance agricultural and other areas of research into new technologies, including biotechnology, and concluded that the introduction of such new tried and tested technologies should be accomplished in a safe manner, within appropriate regulatory frameworks, and adapted to local conditions to help improve agricultural productivity in developing countries. They also noted that the World Summit on Sustainable Development in 2002 recognized the need to provide additional financial and technical resources to developing countries to promote practicable measures to capitalize on benefits arising from biotechnology.

Participants particularly noted United Nations General Assembly resolution 58/200 of 23 December 2003, which reaffirmed the vital role of new technologies in raising the productivity and competitiveness of nations and the need, inter alia, for capacity-building measures promoting the transfer and diffusion of technologies to developing countries and countries in transition. In addition this resolution took note of the proposal of the Secretary-General for an integrated framework for biotechnology development within the United Nations system and the need for strengthening coordination between relevant organizations and bodies of the system in the area of biotechnology. Participants suggested that the following initiatives and proposals could be further considered and followed up by United Nations organizations (based on their respective mandates and approval by their governing bodies), other international development partners, the scientific community and the private sector:

1. Formation of a multi-stakeholder forum, involving United Nations specialized agencies and other international bodies together with representatives of government, industry and the scientific community to serve as an ongoing platform for informed dialogue on biotechnology and the way in which its benefits may be used for the enhancement of developing countries.

2. Creation of an information network and database as to what biotechnology activities are currently in progress in the countries with economies in transition and developing countries, together with market information on a global basis to assess technology and market potentials for new initiatives, including to identify and facilitate partnerships.

3. Enhancement of efforts for the mobilization of resources for capacity building.

4. Examination of the impact of and ways to facilitate access to intellectual property to promote the exploitation and dissemination of bio-technology in developing countries.

The participants agreed that the GBF provided valuable inputs into the United Nations-wide effort to spread the benefits of biotechnology to the developing countries, and in particular, will contribute towards the Secretary General's system-wide integrated framework for biotechnology development. The participants took note

that a detailed Summary of Proceedings of the GBF will be produced by the organizers, and recommended that it be distributed together with this final statement during appropriate biotechnology events.

The participants welcomed the efforts of the Government of Chile to establish a biotechnology centre of international standard in the Bio Bio Region.

The participants expressed their gratitude to the Government of Chile, the Bio Bio Regional Authority and UNIDO for organizing the GBF, as well as to other collaborating United Nations organizations (FAO, WHO, UNESCO, UNEP, UNCTAD, ILO, CBD) and ICGEB as well as WTO and OECD for their contribution to the GBF.

Based on United Nations General Assembly resolution 57/237, the participants called on the Director-General of UNIDO to include in his report to the fifty-ninth session of the General Assembly a section on the outcome of the GBF.

Concepción, Chile, 5 March 2004